



2019-nCoV Literature Situation Report (Lit Rep)

March 25, 2020

The scientific literature on COVID-19 is rapidly evolving and these articles were selected for review based on their relevance to Washington State decision making around COVID-19 response efforts. Included in these Lit Reps are some manuscripts that have been made available online as pre-prints but have not yet undergone peer review. Please be aware of this when reviewing articles included in the Lit Reps.

Key Takeaways

- **Multiple studies suggest gastrointestinal or fecal-oral route for SARS-CoV-2 transmission.**
- **Practical information for older community-dwelling individuals may mitigate negative impacts of social distancing. Another article provides recommendations for clinical researchers working with the elderly.**
- **A new study suggests that clinical features of COVID-19 in full-term pregnant women were similar to those of non-pregnant adult patients.**
- **Research continues to suggest that mental health during COVID-19 needs to be prioritized, and specific interventions should to be developed for high risk groups and people with COVID-19.**

Non-Pharmaceutical Interventions

- The authors advocate for practical information to be provided to community-dwelling adults to help maintain appropriate community action levels. Elderly community-dwelling adults are at elevated risk for social isolation, and may suffer adverse effects without maintained social ties.
Kuwahara et al. (March 20, 2020). COVID-19: Active measures to support community-dwelling older adults. Travel Med Infect Dis. <https://doi.org/10.1016/j.tmaid.2020.101638>
- Using a mathematical model, the authors suggest that one-time social distancing intervention may be insufficient to maintain COVID-19 prevalence within the critical care capacity of the US.
- Intermittent social distancing may be necessary into 2022 in the absence of additional interventions like new therapeutics, vaccines or aggressive contact tracing and quarantine.
Kissler et al. (March 24, 2020). Social distancing strategies for curbing the COVID-19 epidemic. Pre-print downloaded Mar 25 from <https://doi.org/10.1101/2020.03.22.20041079>

Transmission

- A COVID-19 case screened positive for SARS-CoV-2 in a fecal specimen while testing negative on multiple pharyngeal and sputum samples. This indicates that the virus can proliferate in the digestive tract and potentially undergo fecal-oral transmission.
Chen et al. (March 20, 2020). COVID-19 Disease With Positive Fecal and Negative Pharyngeal and Sputum Viral Tests. Am J Gastroenterol. <https://doi.org/10.14309/ajg.0000000000000610>

- The study reviews findings from 183 hospitalized COVID-19 patients in Wuhan who presented only with gastrointestinal symptoms at admission – suggesting these patients could be likely overlooked.
- These findings suggest that the digestive system, along with the respiratory tract, may be a potential route for SARS-CoV-2 infection.

Luo et al. (March 20, 2020). Don't overlook digestive symptoms in patients with 2019 novel coronavirus disease (COVID-19). Clin Gastroenterol Hepatol.

<https://doi.org/10.1016/j.cgh.2020.03.043>

- This study obtained robust estimates of epidemiological parameters from 1,155 cases in China, Japan, Singapore, South Korea, Vietnam, Germany, and Malaysia.
- Findings support current quarantine practice, but also suggest that longer monitoring periods might be needed for selected groups due to consistent evidence of pre-symptomatic transmission.

Ma et al. (March 24, 2020). Epidemiological parameters of coronavirus disease 2019: a pooled analysis of publicly reported individual data of 1155 cases from seven countries. Pre-print

downloaded Mar 25 from <https://doi.org/10.1101/2020.03.21.20040329>

Geographic Spread

- The authors analyze available COVID-19 case data against countries' Healthcare Access and Quality Index (HAQ), determining significantly less reporting of cases in countries with a lower HAQ.
- Findings suggest that countries with lower HAQs may either underreport or be unable to detect COVID-19 cases, which may sabotage efforts to contain the virus.

Lau et al. (March 14, 2020). Internationally lost COVID-19 cases. J Microbiol Immunol Infect.

<https://doi.org/10.1016/j.jmii.2020.03.013>

Testing and Treatment

- This study investigate the potential association between cardiac injury and in-hospital mortality in a cohort of 110 COVID-19 patients from one hospital in Wuhan, China.
- Cardiac injury was a risk factor for in-hospital death, while higher oxygen saturation was found to be protective. This may help clinicians identify patients with adverse outcome at the early stage of COVID-19.

Zhang et al. (March 24, 2020). Myocardial injury is associated with in-hospital mortality of confirmed or suspected COVID-19 in Wuhan, China: A single center retrospective cohort study.

Pre-print downloaded Mar 25 from <https://doi.org/10.1101/2020.03.21.20040121>

Clinical Characteristics and Health Care Setting

- In this cross-sectional study of 25 pediatric patients in Hubei province, China, the authors find that while children were still susceptible to COVID-19, the clinical presentations and outcomes were mostly favorable when compared to adults.
- Extra attention during home-care and hospitalization treatment may be needed in the younger age-group that accounted for majority of the cases as well as critical cases in this study.

Zheng et al. (March 24, 2020). Clinical Characteristics of Children with Coronavirus Disease 2019 in Hubei, China. Curr Med Sci. <https://doi.org/10.1007/s11596-020-2172-6>

- Yu et al review findings from 7 pregnant COVID-19 patients in Wuhan, China with a focus on clinical features and obstetric and neonatal outcomes.

- Clinical characteristics of these patients infected late in pregnancy were similar to those of non-pregnant adults, and maternal, fetal, and neonatal outcomes all appeared to be very good because of intensive active management of the disease.

Yu et al. (March 24, 2020). Clinical features and obstetric and neonatal outcomes of pregnant patients with COVID-19 in Wuhan, China: a retrospective, single-centre, descriptive study. Lancet Infect Dis. [https://doi.org/10.1016/S1473-3099\(20\)30176-6](https://doi.org/10.1016/S1473-3099(20)30176-6)

Mental Health and Personal Impact

- Li et al review posts from 17,865 active users of Weibo, a Chinese social-media platform, and find an increase in negative emotions like anxiety, depression and indignation and sensitivity to social risks; as well as a decrease in positive emotions and life satisfaction after declaration of COVID-19 as an epidemic.
- Using social media data may provide timely understanding of public's mental health during an epidemic for policy makers and clinical practitioners to develop campaigns and interventions accordingly.

Li et al. (March 19, 2020). The Impact of COVID-19 Epidemic Declaration on Psychological Consequences: A Study on Active Weibo Users. Int J Environ Research Public Health. <http://dx.doi.org/10.3390/ijerph17062032>

- This study examines Wuhan-exposure, sleep quality, and posttraumatic stress symptoms (PTSS) in 2,027 Chinese residents.
- The results indicate that supporting good quality sleep in individuals with high infectious risk may prevent PTSS.

Zhang et al. (March 24, 2020). High risk of infection caused posttraumatic stress symptoms in individuals with poor sleep quality: A study on influence of coronavirus disease (COVID-19) in China. Pre-print downloaded Mar 25 from <https://doi.org/10.1101/2020.03.22.20034504>

- Anxiety and depression were both higher in COVID-19 patients at time of admission than in pneumonia patients or a healthy control group. Anxiety and depression decreased in COVID-19 patients after one week of comprehensive psychological intervention.
- Understanding the psychological state of patients with pneumonia, especially patients with COVID-19 can help clinicians systematically identify patients vulnerable to psychological pain and provide targeted interventions.

Yang et al. (March 24, 2020). Analysis of psychological state and clinical psychological intervention model of patients with COVID-19. Pre-print downloaded Mar 25 from <https://doi.org/10.1101/2020.03.22.20040899>

Public Health Policy and Practice

- This article summarizes the timeline of suspected and confirmed COVID-19 diagnosis, quarantine practices, and passenger release on the Diamond Princess cruise ship.
- The authors discuss critiques of specific government actions, ethical implications of barring ships with known outbreaks from docking, and the need for international collaboration.

Nakazawa et al. (March 24, 2020). Chronology of COVID-19 cases on the Diamond Princess cruise ship and ethical considerations: a report from Japan. Disaster Medicine and Public Health Preparedness. <https://doi.org/10.1017/dmp.2020.50>

- Not all workers are employed in occupations which can be done from home, putting these individuals at increased risk of both SARS-CoV-2 exposure and job displacement. Identifying these at-risk individuals may inform public health risk management and prioritize occupation sectors where additional protections are necessary.

Baker (March 24, 2020). Characterizing occupations that cannot work from home: a means to identify susceptible worker groups during the COVID-19 pandemic. Pre-print downloaded Mar 25 from <https://doi.org/10.1101/2020.03.21.20031336>

Other Resources and Commentaries

- [Coronavirus Disease \(COVID-19\): A primer for emergency physicians](#) – Am J Emerg Med (Mar 24)
 - This review article provides emergency physicians with an overview of the most current understanding of COVID-19 and recommendations on the evaluation and management of patients with suspected COVID-19.
- [How to perform lung ultrasound in pregnant women with suspected COVID-19 infection](#) – Ultrasound in Obstetrics and Gynecology (Mar 24)
 - A practical approach for to perform lung ultrasound which should be of particular importance in emergency situations, such as the current COVID-19 pandemic.
- [How to convert a classic infectious disease ward into a COVID-19 response center \(Italy\)](#) – J Hosp Infect (Mar 20)
 - Description of processes used and lessons learned while converting a 44-bed infectious disease ward to a 94-bed COVID-19 emergency response facility.
- [Action at a Distance: Geriatric Research during a Pandemic](#) – J or American Geriatric Soc (Mar 24)
 - The article lists recommendations for clinical researchers working with older adults during the COVID-19 outbreak that continues to minimize face-to-face contact. Recommendations include: 1) implementing technology to minimize contact, 2) assessing psychological and social impacts of COVID-19 on patients, and 3) mobilizing research platforms for patient's needs.